

A UNIFORM RAISING ANALYSIS FOR STANDARD AND NONSTANDARD RELATIVE CLAUSES IN BRAZILIAN PORTUGUESE

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Based on *Kayne*'s (1994) analysis of relative clauses, this paper proposes a uniform account of the three types of relative clauses found in Brazilian Portuguese: the standard version (with pied-piping), the resumptive version with an overt pronoun, and the PP-chopping version, where the relativized PP appears to be deleted. We argue that a DP headed by a relative determiner can be base-generated in a left dislocation position in Brazilian Portuguese and this is what yields lack of island effects and apparent PP-chopping relatives. Based on their lexical conditioning, we propose that PP-chopping relatives in fact involve a null pronominal (*pro*) in the object position licensed by inherent Case.

1. INTRODUCTION*

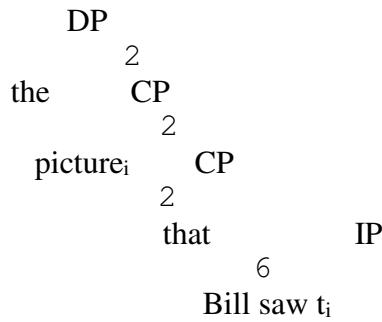
Kayne (1994) has greatly energized the debate on the structure of relative clauses by developing an interesting approach to relative clauses in consonance with his Linear Correspondence Axiom (*LCA*), which considerably restricts the types of syntactic structures and the types of movement available in the grammar. Reviving *Vergnaud*'s

* The gist of the proposals discussed in this paper was first presented at the II Encontro do Círculo de Estudos Lingüísticos do Sul (Kato and Nunes 1997) and at the Eighth Colloquium on Generative Grammar (Kato & Nunes 1998). We are thankful to these audiences. Development of the current version has been supported by FAPESP (grant # 2006/00965-2).

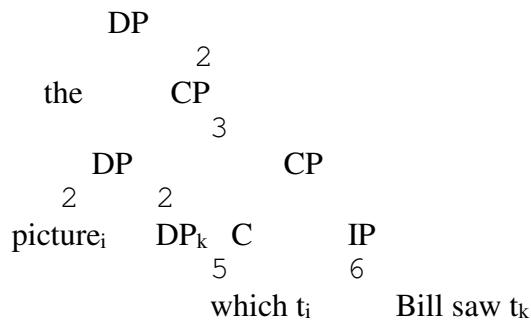
(1974) raising analysis, Kayne proposes that the relative clauses in (1) are to be derived along the lines of (2).¹

(1) a. the picture that Bill saw
 b. the picture which Bill saw
 c. the hammer with which Bill broke it

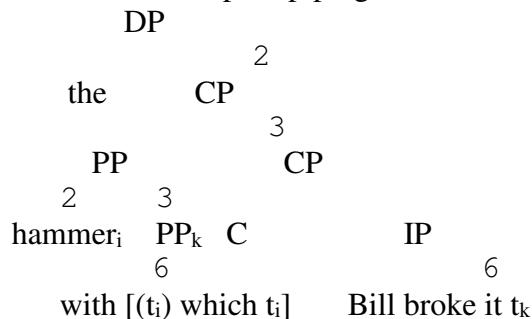
(2) a. *that*-relatives:



b. *wh*-relatives:



c. *wh*-relatives with pied-piping:



In (2a), the determiner selects a CP to which the relativized NP adjoins. In (2b), the relativized NP adjoins to the *wh*-phrase, which in turn adjoins to CP. Finally, in (2c),

¹ Here we will focus on the relevant movement operations and the adjunction configuration that Kayne (1994) proposes are involved in the derivation of relative clauses. We remain uncommitted to other aspects of his proposal that follow from the LCA such as the distinction between terminals and lexical items and the lack of distinction between specifiers and adjuncts. Thus, the structures that we will present will be a simplified version of his, encoding only the properties that will be relevant to our discussion. Also, although the points we make may apply to appositive relative clauses as well, here we will limit the discussion to restrictive and free relative clauses.

PP adjoins to CP and the relativized NP adjoins to PP “probably via Spec, which” (Kayne 1994:89).

Although the general raising approach to relative clauses has received strong empirical support (see e.g. Vergnaud, 1974, 1985; Kayne, 1994; and Bianchi, 1999), the specific derivations in (2) encompass the following nonstandard assumptions (see Borsley, 1997; Kato & Nunes, 1997, 1998): (i) despite their similarities in meaning, (2a) involves an NP-gap, whereas (2b) involves a DP-gap; (ii) NPs may precede (i.e. move across) the determiner they are associated with even in languages with head-initial determiners (cf. (2b)/(2c)); and (iii) the external determiner can enter into syntactic relations with the relativized NP, despite the fact that they have not merged.

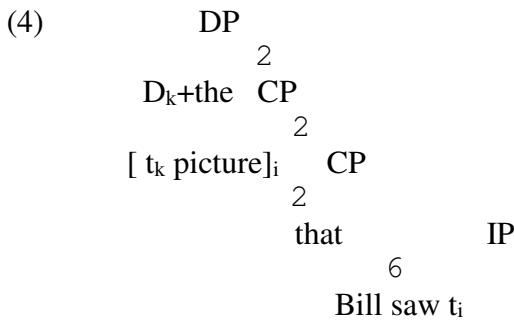
We will show in this paper that aside from (i), which can be easily remedied, these assumptions are not only sound, but make it possible to shed light on some recalcitrant data in Romance. This paper is organized as follows. In sections 2 and 3, we discuss the assumptions above, based largely on relative clauses in Brazilian Portuguese. In section 4, we propose a unified raising analysis along the lines of (2b) for the three types of restrictive relative clauses found in Brazilian Portuguese. Section 5 discusses some consequences of the proposal in the context of free relatives and finally, some concluding remarks are presented in section 6.

2. NP RAISING AND *QUE*-TO-*QUI* EFFECTS

The structure proposed for *that*-relatives tacitly assumes that the launching position of the movement depicted in (2a) is an NP gap, which is at odds with the unacceptability of sentences such as (3), where an NP occupies such position (see Borsley, 1997 and Kato and Nunes, 1997, 1998).

(3) *Bill saw picture.

Bianchi (1999, 2000) remedies this problem by proposing that *that*-type relatives actually involve movement of a DP headed by a null relative determiner. The relative DP must also satisfy a Relative Criterion by adjoining to a CP headed by a relative complementizer. From this position, the null relative determiner then incorporates into the external determiner, as illustrated in (4).

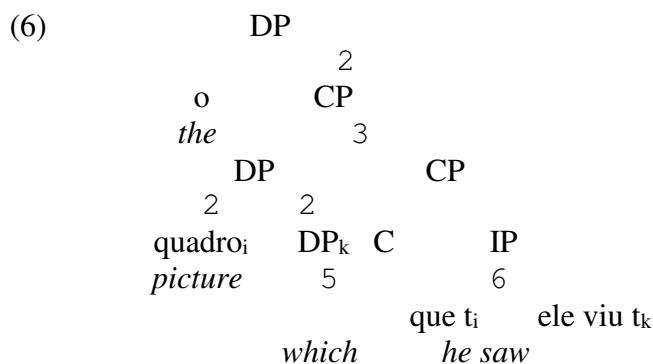


Bianchi shows that her proposal not only correctly excludes (3), but also provides an account of the complex paradigm involving relative complementizer deletion in English.

At first sight, “*that*-relatives” in Brazilian Portuguese such as the one illustrated in (5) should be subject to a similar analysis.²

(5) o quadro que ele viu
the picture that he saw
‘the picture that he saw’

However, we would like to outline an alternative analysis to “*that*-relatives” in Brazilian Portuguese which shares with Bianchi’s proposal the idea that it is a DP that undergoes movement, but is more tuned to Kayne’s (1994) derivation of *wh*-relatives in (2b). More specifically, we propose that rather than a complementizer, *que* in (5) is actually a relative determiner. In other words, we propose that the derivation of a “*that*-relative clause” like (5) in Portuguese actually involves a structure along the lines of (6), with the relative CP headed by a null C.³



Three different sets of facts provide suggestive evidence for this proposal. First, in addition to being homophonous with a declarative complementizer, as shown in (7a), *que* in Portuguese is also ambiguous with an interrogative *wh*-determiner, as illustrated in (7b).

(7) a. Ele disse **que** ela saiu.
he said that she left
‘He said that she left.’
b. **Que** quadro ele viu?
which picture he saw
‘Which picture did he see?’

If *que* in (5)/(6) is a relative *wh*-determiner, it is formally and functionally distinct from the interrogative *wh*-determiner in (7b) in obligatorily triggering movement of its complement NP. Or, in technical terms, the relative determiner *que* is endowed with a strong N-feature, as opposed to its interrogative cousin. This brings us to a second set of facts. Like all demonstratives in Portuguese, the demonstrative determiners *este* ‘this.MASC.SG.’ and *esta* ‘this.FEM.SG.’ (and their plural counterparts) precede their complement NP, as exemplified in (8).

² See Kenedy (2002) for such an analysis in Brazilian Portuguese.

³ Here we will abstract away from additional layers of structure between D and NP (see Bianchi 1999 for a specific proposal), which would make the movement of the NP depicted in (6) compatible with anti-locality restrictions (see Abels, 2003 and Grohmann, 2003 for relevant discussion).

(8) a. Ele comprou **este livro**/***livro este**.
he bought this book book this
 ‘He bought this book.’

b. *Ele comprou **esta revista**/***revista esta**.
he bought this magazine magazine this
 ‘He bought this magazine.’

However, these demonstratives may also be used as relative pronouns of sorts in constructions such as (9a) and (10a) below, in which case they cannot precede their NP complement, as shown in (9b) and (10b). This shows that the correlation between being specified as a relative determiner and triggering overt movement of the complement NP is also found with other ambiguous determiners and is not an isolated property of *que*.

(9) a. Ele sempre cita um livro, **livro este** que na verdade não existe
he always cites a book, book this that in-the truth not exists
 b. *Ele sempre cita um livro, **este livro** que na verdade não existe
he always cites a book, this book that in-the truth not exists
 ‘He always cites a book, which in fact does not exist.’

(10) a. O meu time era o favorito, **posição esta** que atraía toda a atenção.
the my team was the favorite, position this that attracted all the attention
 b. *O meu time era o favorito, **esta posição** que atraía toda a atenção.
the my team was the favorite, this position that attracted all the attention
 ‘My team was the favorite and this position attracted all the attention.’

The last set of facts relates to the puzzling contrast in Romance between the interrogative pronoun associated with the feature [+human] and its relative counterpart. Take the Portuguese paradigm in (11) and (12), for instance.

(11) a. **Quem** viu o professor?
who saw the teacher
 ‘Who saw the teacher?’

b. **Quem** o professor viu?
who the teacher saw
 ‘Who did the teacher see?’

c. **Com quem** o professor conversou?
with who the teacher spoke
 ‘Who did the teacher speak to?’

(12) a. *a pessoa **quem** viu o professor
the person who saw the teacher
 ‘the person who saw the teacher’

b. *a pessoa **quem** o professor viu
the person who the teacher saw
 ‘the person who the teacher saw’

c. a pessoa **com quem** o professor conversou
the person with who the teacher spoke
 ‘the person who the teacher spoke to’

(11) shows that the interrogative pronoun *quem* can function as a subject (cf. (11a)), a direct object (cf. (11b)), or the complement of a preposition (cf. (11c)). By contrast, the homophonous relative pronoun *quem* in (12) can only function as the complement of a preposition (cf. (12c)), but not as a subject (cf. (12a)) or a direct object (cf. (12b)).⁴ One could think that the relative *quem* is morphologically specified as oblique and, therefore, can only be licensed as the complement of a preposition. However, the fact that the homophonous interrogative *quem* is not so restricted casts some doubts on the plausibility of such an approach. Moreover, apart from the personal and possessive pronouns, no other pronouns inflect for Case in Portuguese.

Kayne's (1994) account of the puzzle illustrated in (12) has two steps. Taking English as a starting point, Kayne argues that a sentence such as (13a) is to be associated with the structure in (13b), where *[who man]* forms a constituent at some point during the derivation, or the structure in (13c) (following a suggestion by Giuliana Giusti), where *which* is spelled out as *who* under Spec-head agreement with a [+human] NP.⁵ Crucially, in both cases the relativized NP adjoins to the *wh*-DP.

(13) a. the man who Bill saw
 b. [the [CP [DP man_i [DP who t_i]]]_k [CP C [IP Bill saw t_k]]]]
 c. [the [CP [DP man_i [DP which t_i]]]_k [CP C [IP Bill saw t_k]]]]

As for the contrasts in Italian and French shown in (14) and (15) below, Kayne proposes, following a suggestion by Valentina Bianchi, that the problem in (14) is that there are not enough positions to accommodate both the relative pronoun and the relativized NP (the “head” of the relative clause). Given that in Kayne's system maximal projections allow only one Spec/adjunct, the moved NP in (13b), for

⁴ (i) below shows that this restriction is also observed with the so-called relative pronouns *o qual* (*the.MASC.SG which.MASC.SG*), *os quais* (*the.MASC.PL which.MASC.PL*), *a qual* (*the.FEM.SG which.FEM.SG*), and *as quais* (*the.FEM.PL which.FEM.PL*), which differ from *quem* in being inflected for gender and number and being compatible with both [+human] and [-human] features. As far as we can see, the analysis we propose below for *quem* extends straightforwardly to these pronouns. For sake of space, we will however restrict our discussion to *quem*.

(i) a. **o* livro/autor ***o qual*** era muito bom
the book/author the which was very good
‘the book/author that was very good’
 b. **o* livro/autor ***o qual*** eu mencionei
the book/author the which I mentioned
‘the book/author that I mentioned’
 c. *o* livro/autor ***sobre o qual*** eu falei
the book/author about which I spoke
‘the book/author I spoke about’

⁵ This suggestion also applies, *mutatis mutandis*, to relative clauses introduced by *wh*-words corresponding to *where*, *when*, and *how*, as illustrated in (i) for Portuguese, which we will not discuss here.

(i) a. a casa onde eu morava
the house where I lived
‘the house where I used to live’
 b. na semana quando eu ia viajar
in-the week when I went travel
‘in the week when I was going to travel’
 c. o modo como ele explicou o problema
the way how he explained the problem
‘the way how he explained the problem’

instance, cannot adjoin to CP for the DP is already adjoined to it; hence, the moved NP must adjoin to the adjoined DP. According to Kayne, the difference between English (cf. (13a)), on the one hand, and Italian and French (cf. (14)), on the other, follows if English *who* licenses adjunction of its complement NP, but Italian *cui* and French *qui* don't. That being so, sentences such as the ones in (15) are ruled in as the preposition provides an additional landing site for the relativized NP.

(14) a. *la persona **cui** Bill ha visto (Italian)
the person who Bill has seen
 b. *la personne **qui** Bill a vue (French)
the person who Bill has seen
 'the person who Bill saw'

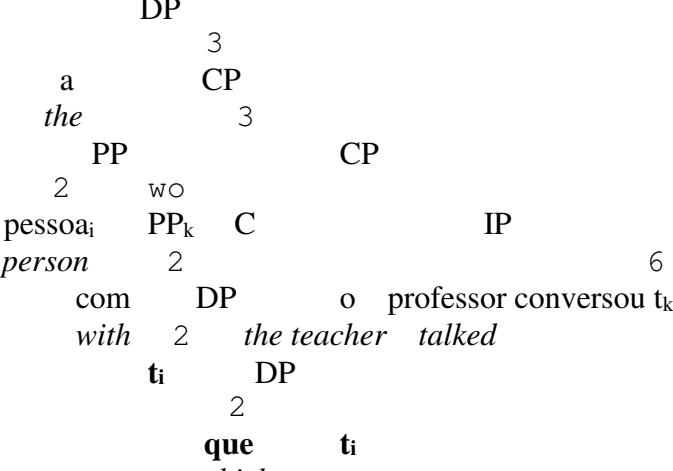
(15) a. la persona **con** cui Bill ha parlato (Italian)
the person with who Bill has spoken
 b. la personne **avec** qui Bill a parlé (French)
the person with who Bill has spoken
 'the person Bill spoke to'

Although this proposal is able to capture the restriction illustrated in (12) and (14)-(15), there is no obvious account of why English should differ in this way from Italian, French, and Portuguese, as Kayne (1994:90) himself acknowledges. Furthermore, as observed by Alexiadou, Law, Meinunger, & Wilder (2000), the reasoning only goes through if CP is not split. If CP is indeed split into different maximal projections (see Rizzi 1997), projections above the projection that hosts the adjoined *wh*-DP could in principle host the relativized NP.

We would like to suggest that a better account for the puzzle presented by (12) and (14)-(15) can be attained if “*that*-relatives” in these Romance languages are actually *which*-relatives, as proposed above. If so, the Portuguese paradigm in (12), for instance, follows if instead of dealing with a true relative pronoun, we are actually facing a phenomenon similar to *que-to-qui* conversion in French (see e.g. Kayne, 1976; Pesetsky, 1982; and Rizzi, 1990), as illustrated in (16).

(16) a. Quelle étudiante a Jean dit qui/*que viendra?
which student has Jean said who that will-come
 'Which student did Jean say will come?'
 b. [[quelle étudiante]_i a Jean dit [CP **t_i** [**que** [IP **t_i** viendra **t_i**]]]]
 ↓
qui

Take the structure in (17a) below, for instance, where the relativized NP adjoins to the DP headed by the invariant relative determiner *que*, before adjoining to its final landing site, leaving a trace behind. As we should expect, (17a) may surface as (17b). However, notice that the configuration in (17a) bears a striking similarity with the standard *que-to-qui* configuration in (16b). In both cases we have a functional head surrounded by traces, associated with an idiosyncratic use of a *wh*-pronoun: *qui* in (16b) and *quem* in (12)/(17c). These similarities suggest that *quem* in (12c), repeated below in (17c), should also be analyzed along the lines of *qui* in (16b).

(17) a. 

b. a pessoa **com que** o professor conversou
the person with which the teacher spoke
 'the person who the teacher spoke to'
 c. a pessoa **com quem** o professor conversou
the person with who the teacher spoke
 'the person who the teacher spoke to'

Putting aside matters of technical implementation, our suggestion is that if the surface form *quem* in (17c) is to be subsumed under a *que-to-qui* effect, the contrast between the interrogative *quem* (cf. (11)) and the relative *quem* (cf. (12)) in Portuguese receives a straightforward account. Like the other interrogative pronouns, the interrogative *quem* is a basic lexical item and, therefore, can occur in any position it can be appropriately licensed. The relative *quem*, on the other hand, is a derived lexical item which is (optionally) obtained in the morphological component when it is surrounded by traces of a [+human] element ($[t_{[+human]} que t_{[+human]}]$), as is the case in (17a) (see fn. 3 and 4). As the stuctures associated with sentences such as (12a) and (12b), repeated below in (18a) and (19a), do not yield this configuration, as shown in (18b) and (19b), *quem* is accordingly blocked.

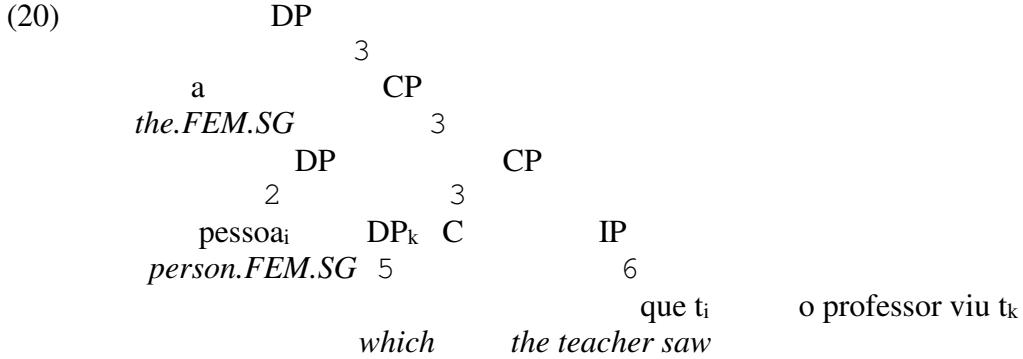
(18) a. a pessoa **que /*quem** viu o professor?
the person which who saw the teacher
 'the person who saw the teacher'
 b. [a [CP [DP **pessoa_i** [DP **que t_i**]]_k [CP C [IP t_k viu o professor]]]]

(19) a. a pessoa **que /*quem** o professor viu
the person which who the teacher saw
 'the person who the teacher saw'
 b. [a [CP [DP **pessoa_i** [DP **que t_i**]]_k [CP C [IP o professor viu t_k]]]]

To summarize, unsuspected *que-to-qui* effects lend considerable support to the approach pursued here. By analyzing apparent *that*-relatives in Brazilian Portuguese as *wh*-relatives, we are able to provide a unique derivation for relative clauses, subsuming surprising asymmetries such as the ones involving the so-called relative pronoun *quem* to other familiar syntax-phonology mismatches when traces are involved.

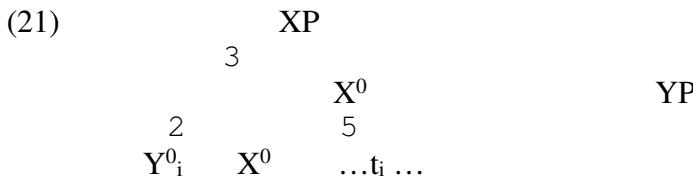
3. NP RAISING, ADJUNCTION, AND AMBIGUOUS DOMAINS

Let us now turn our attention to the relation between the external determiner and the raised NP. Take the structure of (19a), for instance, given in (20).



In (20), the external determiner *a* agrees in gender and number with the raised NP *pessoa*. In general, this agreement relation obtains between a determiner and its complement NP (see fn. 3). The question that then arises is how the same type of agreement can hold in the unorthodox configuration in (20), where the determiner has merged with the relative CP rather than raised NP.

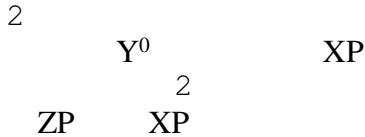
This is in fact related to the general issue of why there should be adjunction configurations in the grammar. The question is even more pressing under Chomsky's (1995) bare phrase structure system, which distinguishes specifiers from adjuncts, but does not impose any limit on the number of specifiers a given head may take. Why should the language faculty allow the apparently more complicated adjunction structures in addition to straightforward "substitution" structures (pair-merge in addition to set-merge in Chomsky's 2000 terms)?⁶ For head movement, the answer seems to be trivial: assuming that chain links must be in a c-command relation, head movement should only give rise to a well formed representation if the moved head did not end up dominated by a projection of the host so that it could c-command its trace, as illustrated in (21).



However, a syntactic justification for XP-adjunction, as illustrated in (22) below, is less obvious. What forces ZP in (22) to undergo pair-merge instead of set-merge? That is, why does the system resort to an adjunction configuration instead of a Spec-head configuration?



⁶ For relevant discussion see Hornstein & Nunes (2008), who propose that by not being labeled, adjunction structures are actually simpler than structures resulting from set-merge.



We would like to suggest that unambiguous cases of XP-adjunction such as (22) may constitute an optimal solution for the derivational step sketched in (23), where (i) Y, XP, and ZP are root syntactic objects; (ii) ZP must establish a syntactic relation σ_1 with Y and a different syntactic relation σ_2 with XP; and (iii) Y and XP enter into no syntactic relation with each other.

$$(23) \quad ZP_{\sigma_1, \sigma_2} \quad Y_{\sigma_1} \quad XP_{\sigma_2}$$

Assuming with Chomsky (2000) that every Merge operation must be licensed by Last Resort, if Y and ZP merge in (23) projecting YP, further merger between YP and XP is not licensed by Last Resort; similarly, if ZP merges with XP becoming the specifier of XP, subsequent merger of XP and Y is again prevented by Last Resort. In both scenarios, the derivations are canceled. Let us now consider how an adjunction configuration can solve the problem posed by (23), by computing the minimal domains that ZP in (22) belongs to, assuming Chomsky's (1993) definitions in (24) and (25):

$$(24) \quad \text{Domain of } \alpha (\delta(\alpha)):$$

The set of categories contained in $\text{Max}(\alpha)$ that are distinct from and do not contain α .

$$(25) \quad \text{Minimal Domain of } \alpha (\text{Min}(\delta(\alpha))):$$

The smallest subset K of $\delta(\alpha)$ such that for any $\gamma \in \delta(\alpha)$, some $\gamma \in K$ reflexively dominates γ .

In (22), ZP is contained in XP and the only element that reflexively dominates ZP within $\delta(X)$ is ZP itself; hence, ZP falls within $\text{Min}\delta(X)$. Interestingly, ZP also falls within $\text{Min}\delta(Y)$, since ZP is contained in YP and is the only category in $\delta(Y)$ that reflexively dominates ZP (crucially, XP contains but does not dominate ZP). Thus, if ZP adjoins to XP in (23), subsequent merger between Y and XP does satisfy Last Resort because ZP will end up being in the minimal domain of Y, allowing the syntactic relation σ_1 to be established.

Going back to (20), the NP *pessoa* is only contained – not dominated – by the DP headed by *que* and the relative CP; hence, *pessoa* also falls within the minimal domain of the external determiner. To put it in different words, if head-complement relations requires mutual c-command and c-command is defined in terms of dominance, as standardly assumed, there is no substantial difference between the configuration involving *a* and *pessoa* in (20) and the canonical DP configuration *[DP a pessoa]*.⁷ In both configurations, the determiner and the NP are in a mutual c-command relation, which allows them to establish the relevant syntactic relations.

Independent evidence for this approach to the relation between the external determiner and the raised NP can be found with another type of relative clauses,

⁷ Bianchi (1999:59) reaches the same conclusion based on Manzini's (1994) notion of locality, adapted from Chomsky (1993).

namely, free/headless relative clauses (see Kato & Nunes, 1997, 1998). As is well known, free relative clauses generally exhibit matching effects between the matrix and the embedded clause. In Portuguese, for instance, this matching is instantiated by a sort of preposition sharing.⁸ Take the paradigm in (26) below, for instance, which shows that the verbs *discordar* ‘disagree’ and *rir* ‘laugh’ select for the preposition *de* ‘of’, whereas the verbs *concordar* ‘agree’ and *competir* ‘compete’ select for the preposition *com* ‘with’. When one of these verbs takes a free relative clause as its complement, it must be the case that the selectional properties of the matrix and the embedded verb match, as shown in (27a) and (27b). In turn, (27c) and (27d) are ruled out because the preposition chosen satisfies the selectional requirements of one of these verbs, but not the other.

(26) a. Eu discordei/ri **dele** /***com** ele
I disagreed/laughed of-him with him
‘I disagreed with him.’/‘I laughed at him.’

b. Eu concordei/competi **com** ele /***dele**
I agreed competed with him of-him
‘I agreed/competed with him.’

(27) a. Ele só compete **com** quem ele concorda.
he only competes with who he agrees
‘He always competes with who he agrees with.’

b. Ele sempre ri **de** quem ele discorda
he always laughs of who he disagrees
‘He always at who he disagrees with.’

c. Ele sempre concorda ***com** quem/***de** quem ele ri
he always agrees with who of who he laughs
‘He always agrees with who he laughs at.’

d. Ele sempre ri ***de** quem/***com** quem ele compete
he always laughs of who with who he competes
‘He always laughs at who he competes with.’

The interpretation of the adjunction structure in (22) proposed above accounts for these matching effects as follows: at some point in the derivation of (27a), for instance, CP (= XP in (22)) has been assembled and the verb *compete* (= Y in (22)) is selected from the numeration, as shown in (28) below. CP and *compete* cannot merge at this point because *competir* does not select for a CP. The strong *wh*-feature of C then triggers the copying of the PP *com quem* (= ZP in (22)), as shown in (29). Although Last Resort would license set-merger of PP with either *compete* or CP, no further set-merger would be licensed if one of these possibilities of merger were implemented, because *compete* and CP do not have features that would sanction such merger, as discussed with respect to the derivational step in (28). The computational system may then adjoin PP to CP, allowing the strong *wh*-feature to be checked, and merge the resulting structure with *compete*, yielding the structure in (30).

(28) a. XP = [CP C [ele concorda [PP com quem]]]
he agrees with who

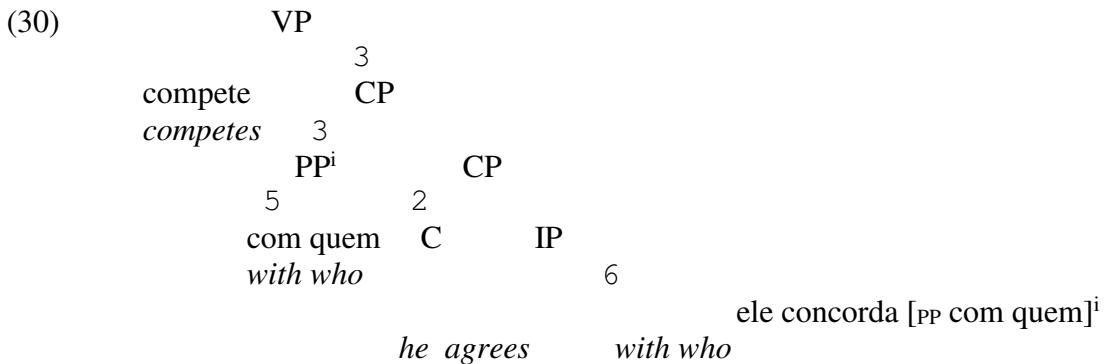
b. Y = compete
competes

⁸ For general discussion of free relatives in Brazilian Portuguese, see Medeiros Junior (2005).

(29) a. $XP = [CP\ C\ [ele\ concorda\ [PP\ com\ quem]^i]]$
he agrees with who

b. $Y = \text{compete}$
competes

c. $ZP = [PP\ com\ quem]^i$
with who



As opposed to what happened in the derivational step in (28), merger of *compete* and CP in (30) now satisfies Last Resort because the moved PP falls within $\text{Min}(\delta(\text{compete}))$ and they can establish the relevant syntactic relation (θ -relation).⁹

To summarize, the adjunction structure employed in Kayne's (1994) analysis of relative clauses not only technically allows an external determiner and the raised NP to establish syntactic relations between them, but also receives independent support from structures which seem to involve shared constituents, as is the case of free relatives.

4. A UNIFORM ACCOUNT FOR THE THREE TYPES OF RESTRICTIVE RELATIVES IN BRAZILIAN PORTUGUESE

In his seminal work on relative clauses in Brazilian Portuguese, Tarallo (1983) postulated three types of relativization strategies, each of which with a different

⁹ In (28)-(30), the pronoun *quem* is a regular lexical item that can undergo regular merger and is not a product of *que-to-quem* discussed in section 2. Thus, we also find free relatives where *quem* can be a subject or an object, as illustrated in (i) below. As for the impossibility of these instances of *quem* in restrictive relatives in Portuguese (cf. (12a) and (12b)), we conjecture that free relative *quem* has a hidden polarity feature corresponding to English *-ever* which makes it semantically incompatible with environments that license restrictive relatives.

(i) a. Quem chegar primeiro chama os outros.
who arrives first calls the others
 'Whoever arrives first should call the others.'

b. Eu vou contratar quem você recomendar
I go hire who you recommend
 'I'm going to hire whoever you recommend.'

sociolinguistic status: the standard, the resumptive, and the chopping strategy, as respectively illustrated in (31).¹⁰

(31) a. a pessoa com quem eu conversei
the person with who I talked
 b. a pessoa que eu conversei com ela
the person that I talked with her
 c. a pessoa que eu conversei
the person that I talked
 ‘the person I talked to’

Standard relatives are introduced by a *wh*-constituent and have a trace in the position of the relativized constituent. According to Tarallo, the nonstandard versions involve the complementizer *que* and a resumptive pronoun, which may be overtly realized, as in (31b), or may be null, as in (31c). In the latter case, the preposition associated with the resumptive pronoun is assumed to be deleted in the phonological component, as Brazilian Portuguese in general does not allow for preposition stranding.¹¹

¹⁰ Here we will abstract from the general preference for the overt pronoun when the “head” of the relative is animate and the null pronoun when the “head” is inanimate (see e.g. Tarallo, 1983; Duarte, 1986, Cyrino, 1997; and Ferreira, 2000).

¹¹ These three different types of relative clauses are easily distinguishable when PPs are involved. When relativization involves a subject or a direct object position, as exemplified in (i), we find potential structural ambiguity between the standard strategy (with a trace) and the strategy with a null resumptive pronoun.

(i) a. a pessoa que *ec* comprou o livro
the person which bought the book
 ‘the person that bought the book’
 b. a pessoa que eu vi *ec*
the person which I saw
 ‘the person that I saw’

In the case of subjects, these possibilities can be distinguished with island configurations. Given that Brazilian Portuguese lacks resumptive null subjects (see e.g. Figueiredo Silva, 1996; Ferreira, 2000, this volume), as illustrated in (iia) below, we are led to the conclusion that (ia) can only be derived through the standard strategy in Tarallo’s terms, i.e. via movement. In the case of objects, on the other hand, islands are of no help as Brazilian Portuguese allows base generated null objects, with no island sensitivity, as shown in (iib) (see e.g. Galves, 1984; Farrell, 1990; Kato, 1993b; Cyrino, 1997; and Ferreira, 2000). That is, environments such as (ib), where islands are not involved, are compatible with both a movement and a null resumptive analysis. However, two sorts of facts lead to the conclusion that (ib) is to be associated with the movement analysis, only. First, Nunes & Santos (this volume) show that stress shift, which in Brazilian Portuguese ignores traces but not *pro*, may apply in environments such as (ib); hence, (ib) can definitely be analyzed in terms of movement. Second, Grolla (2000) and Lessa de Oliveira (2008) show that children acquiring Brazilian Portuguese produce clauses such as (i) much earlier than clauses with resumptives (regardless of whether they are null or overt). If correct, this conclusion supports Hornstein’s (2001, 2007) economy proposal according to which movement preempts resumption if both options lead to convergent derivations. For purposes of discussion, from now on we concentrate on the transparent cases of relative clauses involving PPs.

(ii) a. *[a pessoa]_i que eu li o livro que *ec*_i comprou
the person which I read the book which bought
 ‘the person who I read the book he bought’
 b. [o livro]_i que eu entrevistei a pessoa que escreveu *ec*_i
the book that I interviewed the person that wrote
 ‘the book that I interviewed the person who wrote it’

Kato (1993a) observes that if the chopping strategy involves preposition deletion because prepositions cannot be left stranded in Brazilian Portuguese, the counterpart of a sentence such as (31a) given in (32) below would be incorrectly ruled in under a combination of the standard strategy with the chopping strategy sketched in (33). That is, the relative pronoun *quem* could undergo A'-movement and the stranded preposition could be deleted in the phonological component.

(32) *a pessoa quem eu conversei
the person who I talked
‘the person I talked to’

(33) a. a pessoa [quem_i eu conversei com t_i]
the person who I talked with
b. a pessoa [quem_i eu conversei ~~com~~ t_i]

As an alternative to Tarallo’s (1983) tripartite system, Kato (1993a) proposes a unique relativization strategy to derive the three types of restrictive relative clauses in Brazilian Portuguese. First, she shows that the nonstandard relatives actually mimic what is independently found with left dislocation in Brazilian Portuguese. That is, a left dislocated element in Brazilian Portuguese may be resumed by either an overt pronoun, as shown in (34), or a null pronoun,¹² as shown in (35).¹³

(34) a. [esse livro]_i, ele_i é muito bom
this book it is very good
‘This book is very good.’

b. [esse livro]_i, eu comprei ele_i ontem
this book I bought it yesterday
‘This book, I bought yesterday.’

c. [esse livro]_i, eu estava precisando dele_i ontem
this book I was needing of-it yesterday
‘This book I needed yesterday’

(35) a. [esse livro]_i, eu entrevistei a pessoa que escreveu pro_i
this book I interviewed the person that wrote
‘This book, I interviewed the person who wrote it.’

b. [esse livro]_i, eu falei com um aluno que estava precisando pro_i ontem
this book I spoke with a student that was needing yesterday
‘This book, I spoke with a student that needed it yesterday.’

The fact that in (35a) and (35b) a relative clause island intervenes between *esse livro* and the empty category ensures that we are not dealing with movement of the material in the left dislocated position. That is, the empty category in (35) is a pronominal of sorts.

¹² Kato (1993a) in fact analyzed the empty category in constructions such as (35b) as resulting from some sort of ellipsis, as PPs have no corresponding proforms. For reasons to be presented below, in this paper we reinterpret this empty category as a null pronoun and, accordingly, we will represent it as *pro* in the structures that follow. For phonological evidence that structures such as (35) do involve *pro*, see Nunes and Santos (this volume).

¹³ As we saw in fn. 11, Brazilian Portuguese does not have the null resumptive pronoun alternative for subjects. Thus, (35) only presents examples with the empty category in object position.

Notice that as opposed to what we see in (35b), if an overt DP occupies the object position of *precisar*, the preposition is obligatorily required, as shown in (36).

(36) Um aluno estava precisando *(d)esse livro ontem
 a student was needing of-this book yesterday
 'A student needed this book yesterday.'

One could take (36) to indicate that the null resumptive pronoun in (35b) is somewhat defective in that it may occur in an environment where structural Case is not available. For instance, Ferreira (2000) proposes that the null pronoun in constructions such as (35) is defective in not having a Case-feature.¹⁴ Although able to account for the contrast between (35b) and (36), this proposal fails to capture the lexical conditioning on the environment that allows such defective empty pronouns, as illustrated by the contrast between (35b) and (37b) below (see Kato, 2008). Although both *precisar* and *rir* select for the preposition *de* (cf. (36) and (37a)), only *precisar* licenses a null resumptive pronoun in a left dislocated structure (cf. (35b) vs. (37b)). Moreover, the contrast between (35b) and (37b) is replicated in analogous relative clauses, as illustrated in (38).

(37) a. A Maria riu *(d)o João
 the Maria laughed of-the João
 'Maria laughed at João.'
 b. O João, a Maria riu *(dele)
 the João the Maria laughed of-him
 'João, Maria laughed at him.'

(38) a. Este é o livro que eu estava precisando (dele)
 this is the book that I was needing of-it
 'This is the book that I needed.'
 b. Esta é a pessoa que a Maria riu *(dela)
 this is the person that the Maria laughed of-her
 'This is the person Maria laughed at.'

We would like to suggest that the preposition *de* in (36) is actually a realization of inherent Case (see Chomsky, 1986).¹⁵ Assuming that insertion of prepositions for purposes of inherent Case realization is subject to Last Resort, the preposition will surface just in case the object is overt; when it is null, there is no need for it to show up.¹⁶ From this perspective, the fact that preposition dropping is lexically determined is expected as inherent Case is tied to lexical/thematic selection.

¹⁴ In order to prevent such defective null pronoun from being used as a resumptive subject – possibility that should be excluded in Brazilian Portuguese (see fn. 11) –, Ferreira (2000) proposes that without a Case feature, the null pronoun would be inactive for the computational system and would not be able to check the EPP.

¹⁵ On post-syntactic insertion of prepositions in Portuguese, see Raposo (1997).

¹⁶ Another example of this last resort nature of preposition insertion as inherent Case realization is illustrated by Serbo-Croatian with examples like (i) (adapted from Bošković 2006:525). (ia) shows that when the instrument Case morphology can be realized by the NP, insertion of the preposition *sa* 'with' is prevented. By contrast, given that "higher numerals" like *pet* 'five' in Serbo-Croatian do not decline, the realization of inherent instrumental Case in (ib) is only possible if the preposition is inserted (see Bošković, 2006, and Hornstein, Martins & Nunes, 2008, and Nunes 2008, for further examples and discussion).

That being so, let us return to Kato's (1993a) analysis. Given the salient productivity of left dislocated constructions such as (34) and (35) in Brazilian Portuguese, Kato (1993a) proposes that *que* in relative clauses is always a relative pronoun and it may also be generated in the left dislocation position (where it receives default Case). According to her, the difference between the three types of relative clauses is not in terms of the grammatical resources employed, but rather the launching site of the movement of the relative pronoun *que*. If *que* is generated in an argument position, as exemplified in (39) below, it yields standard relatives after moving to Spec of CP. When prepositions are involved in this scenario, we accordingly find pied-piping (cf. (39c)) and island effects (cf. (39d)). In fact, given that PPs cannot be left dislocated, as exemplified in (40), relative clauses with pied-piping must involve movement and cannot co-occur with resumption, as illustrated in (41).

(39) a. [[aquela pessoa]_i [CP que_i [IP t_i comprou o livro]]]
that person which bought the book
 'that person who bought the book'

b. [[o livro]_i [CP que_i [IP aquela pessoa comprou t_i]]]
the book which that person bought
 'the book which that person bought'

c. [[o livro]_i [CP [PP de que_i]_k [IP você precisa t_i]]]
the book of which you need
 'the book you need'

d. *[[[o livro]_i [CP [PP de que_i]_k [IP você falou com um aluno que está
the book of which you spoke with a student that was
 precisando t_i]]]
needing
 'the book that you spoke with a student who needs it'

(40) (*com) [a minha amiga]_i, você falou com ela_i por telefone
with the my friend you spoke with her by telephone
 'That friend of mine, you spoke with her on the phone.'

(41) *Esta é [a minha amiga]_i com que_i/com quem_i você falou com ela_i por
this is the my friend with which/with who you spoke with her by
 telefone
telephone
 'that friend of mine who you spoke to on the phone.'

By contrast, if *que* is generated in the left dislocation position, we obtain nonstandard relatives, with no island effects and no pied-piping. That is, given the general availability of left dislocation structures in Brazilian Portuguese, it allows

(i) a. On je ovladao (*sa) zemljom.
he is conquered with country(INSTR.SG)
 'He conquered that country.'

b. On je ovladao *(sa) pet zemalja.
he is conquered with five countries(GEN.PL)
 'He conquered five countries.'

nonstandard relative clauses like the ones exemplified in (42)-(44), with an overt pronoun, and (45)-(46), with a null pronoun.¹⁷

(42) a. Eu tenho uma amiga que ela é muito engraçada.
I have a friend which she is very funny
 ‘I have a friend who is very funny.’

b. Eu tenho [[uma amiga]_i [CP que_i [LD t_i [IP ela_i é muito engraçada]]]]]

(43) a. Este é o livro que o João sempre cita ele.
this is the book which the João always cites it
 ‘This is the book that João always cites.’

b. Este é [[o livro]_i [CP que_i [LD t_i [IP o João sempre cita ele_i]]]]

(44) a. Este é o livro que você vai precisar dele amanhã.
this is the book which you go need of-it tomorrow
 ‘This is the book that you’re going to need tomorrow.’

b. Este é [[o livro]_i [CP que_i [LD t_i [IP você vai precisar dele_i amanhã]]]]]

(45) a. Este é o livro que eu entrevistei a pessoa que escreveu.
this is the book which I interviewed the person which wrote
 ‘This is the book that I interviewed the person who wrote it.’

b. Este é [[o livro]_i [CP que_i [LD t_i [IP eu entrevistei a pessoa que escreveu *pro_i*]]]]]

(46) a. Este é o livro que você estava precisando
this is the book which you were needing
 ‘This is the book that you needed.’

b. Este é [[o livro]_i [CP que_i [LD t_i [IP você estava precisando *pro_i*]]]]

As for the unacceptability of (32), repeated below in (47), Kato suggested that *quem* retained its specification as accusative from Old Romance and should therefore be excluded in sentences such as (47), for *conversar* does not license accusative Case.

(47) *a pessoa quem eu conversei
the person who I talked
 ‘the person I talked to’

This suggestion is not without problems, though. First, it fails to provide an account of why only the relative *quem* retained its accusative specification, whereas the homonymous interrogative *quem* is compatible with any type of Case, as seen in

¹⁷ It is immaterial for the present discussion what kind of projection LD in the structures that follow really is. All that matters is that it is the position that hosts left dislocated material and is between IP and CP. We will also abstract away for some interfering factors such as definiteness restrictions in the derivations of sentences like (42a). For unclear reasons, relative clauses involving an overt resumptive in the subject position is generally acceptable if the “head” of the relative is indefinite; if the head is definite, the resumptive pronoun cannot be subjacent to the relative pronoun, as exemplified in (i).

(i) Este é o livro que *(a Maria disse que) ele é muito bom.
this is the book that the Maria said that it is very good
 ‘This is the book that (Mary said) is very good.’

section 2. Second, restrictive relative clauses are also excluded when there is accusative Case available for *quem*, as illustrated in (48).

(48) *o escritor quem eu entrevistei
the writer who I interviewed
 ‘the writer who I interviewed’

We can however maintain the essence of Kato’s (1993a) uniform analysis of relative clauses in Brazilian Portuguese and account for (48) if we reinterpret it in terms of the raising analysis we advocated in sections 2 and 3. That is, we maintain that the so-called relative pronoun *quem* actually reflects a *que-to-qui* type of effect, which arises when the NP complement of the invariant relative determiner *que* moves from its adjoined position leaving two traces surrounding *que*. Thus, the structure in (49) below cannot surface as (48), as the configuration for *que-to-qui* to apply ($t_{[+human]} que t_{[+human]}$) does not arise.

(49) [DP O [CP [DP escritor_i [DP **que t_i**]]_k [CP C [IP eu entrevistei t_k]]]]
the writer which I interviewed

More generally, we also maintain that restrictive relative clauses in Brazilian Portuguese are of the *which*-type in Kayne’s (1994) system, with *que* being a relative determiner, rather than a complementizer. Now, borrowing Kato’s idea, we will assume that a DP headed by the relative determiner can be generated in the left dislocated position. Under this view, the derivation of standard and nonstandard relative clauses is as respectively exemplified in (50)-(51):

(50) *Standard relatives* (cf. (39)):

- a. [aqueла [CP [DP pessoa_i [DP que t_i]]_k [CP C [IP t_k comprou o livro]]]]]
that person which bought the book
 ‘that person who bought the book’
- b. [o [CP [DP livro_i [DP que t_i]]_k [CP C [IP aquela pessoa comprou t_k]]]]]
the book which that person bought
 ‘the book which that person bought’
- c. [o [CP [PP livro_i [PP de [DP t_i [DP que t_i]]]]]_k [CP C [IP você precisa t_k]]]]]
the book of which you need
 ‘the book you need’

(51) *Nonstandard relatives with overt resumptives* (cf. (42)-(44)):

- a. Eu tenho [uma [CP [DP amiga_i [DP que t_i]]_k [CP C [LD t_k [IP ela_i é muito engraçada]]]]]
I have a friend which she is very funny
 ‘I have a friend who is very funny.’
- b. Este é [o [CP [DP livro_i [DP que t_i]]_k [CP C [LD t_k [IP o João sempre cita ele_k]]]]]
this is the book which the João always cites it
 ‘This is the book that João always cites.’
- c. Este é [o [CP [DP livro_i [DP que t_i]]_k [CP C [LD t_k [IP você vai precisar dele_k amanhã]]]]]
this is the book which you go need of-it amanhã]]]]

tomorrow

‘This is the book that you’re going to need tomorrow.’

(52) *Nonstandard relatives with null resumptives* (cf. (45)-(46)):

a. Este é [o [CP [DP livro_i [DP que t_i]]]_k [CP C [LD t_k [IP eu entrevistei a pessoa
this is the book which I interviewed the person
*que escreveu pro_k]]]]]]
which wrote
‘This is the book that I interviewed the person who wrote it.’*

b. Este é [o [CP [DP livro_i [DP que t_i]]]_k [CP C [LD t_k [IP você estava
this is the book which you were
*precisando pro_k]]]]
needing
‘This is the book that you needed’*

It should be noted that being allowed to be generated in the left dislocation position is not an exceptional feature of the relative *que*-phrases in Brazilian Portuguese. As shown in (53) and (54), D-linked interrogative *wh*-phrases can also occupy this position and also be associated with an overt or a null resumptive pronoun (see Ferreira, 2000 for relevant discussion).

(53) a. [que professor]_i, todos os alunos disseram que ele_i é ótimo?
which teacher all the students said that he is excellent
‘Which teacher did all the students say is excellent?’

b. [que professor]_i, todos os alunos adoram ele_i?
which teacher all the students adore him
‘Which teacher do all the students love?’

c. [que professor]_i, todos os alunos queriam conversar com ele_i?
which teacher all the students wanted talk with him
‘Which teacher did all the students want to talk to?’

(54) a. [que livro]_i tinha um freguês que queria comprar pro_i?
which book has a customer which wanted buy
‘Which book was there a customer who wanted to buy it?’

b. [que livro]_i você está precisando pro_i?
which book you are needing
‘Which book do you need?’

5. BACK TO FREE RELATIVES IN BRAZILIAN PORTUGUESE

One interesting consequence of the analysis proposed above involves free relatives in Brazilian Portuguese. Lessa de Oliveira (2008) observes that free relatives in BP can be of the “chopping” variety, as illustrated by her examples in (55) below. Crucially, the embedded verbs of (55) both require a PP complement, as shown in (56).

(55) a. Eu vou visitar quem_i você simpatiza muito
I go visit who you sympathize much
‘I’m going to visit who you like a lot.’

b. Eu encontrei o que você gosta
I found what you like
 ‘I found what you like.’

(56) a. O João simpatiza *(com) a Maria
the João sympathizes with the Maria
 ‘João likes Maria.’

b. O João gosta *(de) romances
the João likes of novels
 ‘João likes novels.’

Assuming a previous version of this paper, Lessa de Oliveira combines the analysis of free relatives presented in section 3 with the analysis of “chopping” restrictive relatives presented in section 4 and proposes that “chopping” free relatives such as (55) are to be derived along the lines of (57), with the relative pronoun adjoined to CP (see fn. 9) and *pro* occupying the embedded object position.

(57) a. [eu vou visitar [CP quem [CP você simpatiza muito *proi*]]]
I go visit who you sympathizes much
 b. [eu encontrei [CP o que [CP você gosta *proi*]]]
I found what you like

Lessa de Oliveira’s approach to “chopping” free relatives makes an interesting prediction: there should be matrix-embedded asymmetries with respect to matching effects. Let us consider the data in (58)-(60), for example.

(58) a. Ela não riu *(d)o palhaço.
she not laughed of-the clown
 ‘She didn’t laugh at the clown.’

b. Ela não gostou *(d)o palhaço.
she not liked of-the clown
 ‘She didn’t like the clown.’

(59) a. *[aquele palhaço]_i, ela não riu *proi*
that clown she not laughed
 ‘That clown, she didn’t laugh at him.’

b. [aquele palhaço]_i, ela não gostou *proi*
that clown she not liked
 ‘That clown, she didn’t like the clown.’

(60) a. *O João sempre critica quem ele ri
the João always criticizes who he laughs
 ‘João always criticizes whoever he laughs at.’

b. O João sempre critica quem ele gosta
the João always criticizes who he likes
 ‘João always criticizes whoever he likes.’

(58) shows that both the verbs *rir* ‘laugh’ and *gostar* ‘like’ select for a complement headed by the preposition *de*. In turn, (59) shows that only the verb *gostar* can be

associated with a left dislocation structure with a null resumptive; accordingly, only *gostar* admits a free relative with a null resumptive (cf. (60a) vs. (60b)), as represented in (61).

(61) [o João sempre critica [CP quem_i [CP ele gosta _{pro_i}]]]
{Z{inherent Case^M}}

Interestingly, if the matrix and the embedded verb are switched, as shown in (62), the preposition now becomes obligatory.

(62) O João sempre gosta*(de) quem ele critica
the João always likes of who he criticizes
 ‘João always likes whoever he criticizes.’

Recall from section 3 that the merger of a matrix verb and the relative CP in free relatives can satisfy Last Resort if the verb and the adjoined *wh*-element enter into a thematic relationship. Thus, in the case of (62) *gostar* must assign a θ -role to *quem* in the structure represented in (63) below. Once the *wh*-element is assigned a θ -role, the inherent Case associated with this θ -role gets realized as *de*. (63) therefore contrasts with (61) in that the realization of inherent Case in the latter is prevented by Last Resort.

(63) [o João sempre [vp gosta [CP quem_i [CP ele critica t_i]]]]
{Z{inherent Case^M}}
 \downarrow
de

To sum up, Lessa de Oliveira’s (2008) extension of our account of “chopping” restrictive relatives to free relatives provides further illustration of the role of inherent Case in licensing “chopping” relatives in BP.

6. CONCLUDING REMARKS

In this paper we have argued that relative clauses in Brazilian Portuguese provide further evidence for Kayne’s (1994) raising approach to relative clauses. By reinterpreting Kato’s (1993a) analysis in terms of Kayne’s (1994) proposal for the derivation of *wh*-relatives, we were able to maintain a uniform account for different types of relative clauses in Brazilian Portuguese, while at the same time correlating the features of the analysis to other independent properties of the language and circumventing the problems posed by the exceptional distribution of the so-called relative pronoun *quem*.

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